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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,064	03/10/2004	Gordon Shearer	248424US3	2692
22850	7590	07/14/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			DONDERO, WILLIAM E	
			ART UNIT	PAPER NUMBER
			3654	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,064

Applicant(s)

SHEARER ET AL.

Examiner

William E. Dondero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: numeral 8 (page 16, line 18), θ (page 16, line 23). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the torque motor must

be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: "are" should be "area" on page 2, line 27, "environment" needs to be inserted between "air" and "to" on page 17, line 3, and "instead" should be one word on page 24, line 8.

Appropriate correction is required.

The use of the trademark Teflon has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 7, 9-11, and 13-15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 4, the phrase "twisted about right angle" renders the claim indefinite because the definition of the limitation is unclear.

Claim 7 recites the limitation "hand drum trunk" in line 17 of page 32. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claims 9-11, the limitation "hand drum-like" renders the claims indefinite because the limitation fails to state the specific structural features of the roller. Further, the limitations "the first and third guide rolls are flat rolls or hand drum-like rolls" in Claims 9 and 10 and "the first and the third fixed guide rolls are composed of a combination of a flat roll and a hand drum-like roll" fail to limit the claimed shape of the rolls.

Claims 13-15 are rendered indefinite by the improper use of a method claim with the lack of concise steps to perform the method. Stating winding a package using a winding apparatus does not define a method. Further in regards to Claim 14, the number of filaments adds structure rather than methodology to the parent claim. Regarding Claim 15, the use of a product by process claim is improper due to the indefiniteness of the parent Claim 13.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 and 3-5 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsunekawa. Regarding Claim 1, in Figure 3 Tsunekawa discloses a guide apparatus for guiding an advancing continuous fiber bundle used when winding the bundle on a bobbin 28 comprising a pair first guide 45 and second guide 44 with axis lines twisted away from each other, a parallel guide 47 downstream from the pair of guides with axis line parallel to the bobbin 28, the first guide being flat or conical, and the second guide being conical. Further regarding Claim 3, the figure discloses the axis line of the second guide 44 has an angle of inclination of less than 90 toward the axis line of the bobbin 28. Regarding Claim 4, the fiber bundle is twisted about right angle by means of

the pair of guides 44 and 45. Regarding Claim 5, the pair of guides and parallel guide are supported by means of a common supporting means 41 so as to move in linkage that can move reciprocally in the direction parallel to the axis line of the bobbin (along bar 58) by means of a traverse mechanism (guide 55) along nearly the whole length of the bobbin.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Nojiri (US Patent #5,499,776 and 5,487,512). Tsunekawa discloses a guide apparatus as discussed above in regards to Claim 1. Tsunekawa is silent of the shape of the first guide being flat. However, Nojiri discloses a flat first guide 2₁ in Figure 1A. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change Tsunekawa's conical guide to the flat guide of Nojiri to allow the ends to begin to flatten out into the width needed.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Barboza and Nakai. Tsunekawa discloses a winding machine for winding an advancing continuous fiber bundle on a bobbin comprising a guide portion as discussed above in regards to claim 1 and a winding portion. However, Tsunekawa is silent concerning a first fixed guide roller with axis line parallel to that of the bobbin,

and a torque motor to drive the winding operation of the bobbin. However, Barboza's Figure 8 discloses a first fixed guide roller 80 with axis line parallel to that of bobbin 36. Further, Nakai discloses a torque motor used for the rotational driving of the bobbin (column 5, lines 17-23). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the first fixed guide roll parallel to the bobbin of Barboza and the torque motor of Nakai to the winding machine of Tsunekawa to assist with guiding the bundle and control the bobbin speed.

Claim 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Barboza and Nakai as applied to claim 6 above, and further in view of Helfand. Tsunekawa in view of Barboza and Nakai discloses a winding machine as discussed above in Claim 6. It is silent about the shape of the first fixed guide roll. However, Helfand discloses, in Figure 1, a hand drum shaped guide roller. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the shape of the first fixed guide roll to hand drum to keep the material in the specified path. Further regarding Claim 8, Barboza discloses a second fixed flat guide upstream from the first fixed guide.

Claim 9-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Barboza and Nakai. As discussed above in regards to Claim 6, Tsunekawa in view of Barboza and Nakai discloses a winding machine with first fixed guide and torque motor driven bobbin rotation. It is silent on the third fixed guide between the first fixed guide and the guide apparatus and a dancer roll between the first and third fixed guide (Figure 8). Barboza discloses a flat third fixed guide roll 80 and a

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fixed guide roll 82 between the first and third fixed guide. Barboza is silent on the use of a dancer roll. Nakai discloses a dancer roll (column 5, lines 17-23), which controls tension based on its displacement. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add Barboza's third fixed guide roll and intermediate guide roll to the winding machine to keep the material on its intended path. Further, it would have obvious to one of ordinary skill in the art at the time the invention was made to alter the intermediate fixed guide of Barboza to the dancer roll of Nakai to use the dancer roll displacement to control the tension through the torque motor. Regarding Claim 13, the combination of Tsunekawa in view of Helfand and Nakai is silent about the method of using the winding machine. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to wind an advancing continuous fiber bundle by using the fiber winding machine because these steps would result from the use of the winding machine in its normal and expected fashion.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Barboza. Tsunekawa discloses a winding machine for winding a plurality of continuous fiber bundles respectively on a plurality of bobbins (Figure 1) which comprises a guide portion comprising a plurality of guide apparatuses as discussed above in regards to Claim 1 (41) and a single flat first fixed guide roll 26. Tsunekawa is silent about the relation of the axis line of the first fixed guide roll to that of the bobbin. Barboza discloses a first fixed guide 80 with a line of axis parallel to the bobbin 36. Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to place the axis line of the first fixed guide in Tsunekawa's winding machine parallel to that of the bobbin as in Barboza's winding machine to guide the plurality of fiber bundles smoothly.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Helfand and Nakai as applied to claim 13 above, and further in view of applicant's admitted prior art in the instant application. Tsunekawa in view of Helfand and Nakai discloses a method of making a bobbin of continuous fiber bundle by winding an advancing continuous fiber bundle using a winding machine as discussed previously. However, Tsunekawa in view of Helfand and Nakai is silent as to the use of 12,000 to 150,000 filaments used to make a carbon fiber bobbin. On page 2, line 6 of the instant application, applicant admits 3,000 to 24,000 filaments are mainly been employed to create a carbon fiber bobbin. Therefore it would have been obvious of one of ordinary skill in the art at the time the invention was made to use more filaments as needed for different applications.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakai is cited for the disclosure of an apparatus for winding a multifilament with flat shape and broad width. Kikuchi is cited for disclosing rollers used to turn a material. Noriji (JP58212564A) is cited for disclosing a carbon fiber package.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William E. Dondero whose telephone number is 571-

272-5590. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on 571-272-6951. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

wed

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